REMARKS

The Examiner is respectfully requested to acknowledge applicants' claim for priority under 35 USC 119 and receipt of the certified copies of the priority documents that were filed on July 2, 2001.

The Examiner is also respectfully requested to return a copy of the Form PTO-1449 filed on April 27, 2001 and to indicated thereon that the cited publications were considered and made of record.

Restriction was required under 35 USC 121 as follows:

Group I. Claims 1 to 17 directed to a method for reducing exhaust carbon dioxide;

Group II. Claims 18 and 19 directed to an underwater immersion lock and method for producing an underwater immersion block; and

Group III. Claim 20 directed to a method of creating a seaweed bed.

Applicants elect Group II (claims 18 and 19).

The specification was amended to make a minor clerical revision on page 57. Enclosed is a MARKED-UP VERSION OF THE AMENDMENTS TO SPECIFICATION.

Claims 18 and 19 were editorially revised. In conjunction with the amendment to step (a) in claims 18 and 19, it is noted that page 4, line 1 of the specification discloses "slag generated

in the iron-steel making process".

Enclosed is a MARKED-UP VERSION OF THE AMENDMENTS TO THE CLAIMS.

New claims 21, 22, 37 and 38 are supported in the specification on page 6, lines 5, 6 and 9; page 13, lines 5 to 8 and page 41, lines 7 et seq.

New claims 23 and 24 include a feature supported in the specification on page 22, line 10.

New claim 24 includes features supported in the specification on page 41, line 13 and page 45, last two lines.

New claims 25 and 39 are supported in the specification on page 22, lines 17 to 26.

New claims 26 and 40 are supported in the specification on page 23, lines 1 to 9.

New claims 27 to 34 and 41 to 48 are supported in the specification on page 57, line 13 to page 58, line 16.

New claim 35 is supported in the specification on page 60, lines 5 to 7.

New claim 36 is supported in the specification on page 67, lines 3 to 11.

New claim 49 is supported in the specification on page 44, lines 1 to 5.

New claim 50 is supported by the paragraph bridging pages 71 and 72.

New claims 51 to 53 are supported in the specification on page 69, line 21 to page 72, line 12.

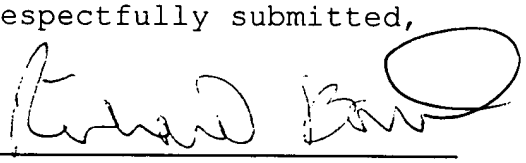
New claims 54 is supported by the paragraph bridging pages 68 and 69 of the specification.

New claim 55 is supported in the specification on page 73, lines 13 to 19.

Enclosed is a check for $306.00 for 17 additional claims.

If the Examiner has any comments, questions, objections or recommendations, the Examiner is invited to telephone the undersigned at the telephone number given below for prompt action.

Respectfully submitted,



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Enclosures: (1) MARKED-UP VERSION OF THE AMENDMENTS TO THE SPECIFICATION
(2) MARKED-UP VERSION OF THE AMENDMENTS TO THE CLAIMS
(3) CHECK FOR $306.00

MARKED-UP VERSION OF THE AMENDMENTS TO THE SPECIFICATION

Page 57, first full paragraph:

--The blocks for sinking in the sea of the present embodiment are produced by closely consolidating slags of small diameter with binders of $CaCO_3$ or [Ca CO_3] $\underline{CaCO_3}$ and $MgCO_3$ produced by the carbonation reaction, and have enough strength. So, when transferring or sinking in the sea, those are not cracked or broken, even after having laid in the sea for a long period of year.--

MARKED-UP VERSION OF THE AMENDMENTS TO THE CLAIMS

18. (Amended) An underwater immersion block produced by a method comprising the steps of:

(a) preparing a granular iron and steel making slag mixture [comprising a granular slag produced in a steel manufacturing process]; and

(b) producing a [caroboxide] carbonate by [a carbonation reaction] carbonation of [a] the mixture to agglomerate the mixture by using the [produced carboxide] carbonate as a binder.

19. (Amended) A method of producing an underwater immersion block, comprising the steps of:

(a) preparing a granular iron and steel making slag mixture [comprising a granular slag produced in a steel manufacturing process];

(b) forming a packed bed [using] of the mixture; and

[effecting] (c) carrying out a carbonation of the mixture in the packed bed to agglomerate the mixture.

MARKED-UP VERSION OF SPECIFICATION

Page 6, lines 34-37, continuing on page 7, lines 1-4:

Yarns or tows proposed under the trademark ~~Pyon~~PYON™ tows by the British company SGL Technics Ltd are advantageously used, with tows of 320 K to 480 K being commercially available. The yarns or tows are formed of continuous filaments derived from a PAN precursor from the British company Courtaulds, after intermediate carbonization performed under tension until a carbon content lying in the range 70% to 80% is obtained.

Page 11, lines 15-22:

Tows were used having a mass per unit length of 30 g/m, i.e. a weight of 30 ktex, marketed by the British company SGL Technics Ltd under the trademark ~~Pyon 15~~PYON 15™ tows. The tows were made of fibers derived from preoxidized PAN that had been subjected to intermediate carbonization under tension so that the fibers had a carbon content of 76%, the remainder being essentially constituted by nitrogen.

Page 12, lines 23-31:

The procedure was applied in accordance with the implementation in Figure 4 by starting with tows marketed by the

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British company SGL Technics Ltd under trademark ~~Pyon 18~~PYON 18™ tows. The tows were formed of 320,000 filaments (320 K) made of fibers derived from preoxidized PAN that had been subjected to intermediate carbonization under tension so that the fibers had a carbon content of 73%. The weight of the starting tows was 34 g/m, i.e. 34 ktex.

Page 13, lines 19-28:

The procedure was applied in accordance with the implementation in Figure 5 by starting with yarns of 50 K filaments fabricated by the British company SGL Technics Ltd under the trademark ~~Pyon~~PYON™ tows. The yarns were formed of continuous fibers derived from preoxidized PAN that had been subjected to intermediate carbonization under tension so that the fibers had a carbon content of 76%. The weight of the yarns was equal to 4.4 ktex.

Page 17,lines 5-20:

A method of fabricating carbon-fiber preforms for making parts made of carbon/carbon composite material such as brake or clutch disks. To fabricate ~~a~~ carbon-fiber preforms at least one yarn or tow is used that is formed of continuous fibers derived from carbon precursor fibers such as preoxidized PAN precursors,

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that have been subject to intermediate, i.e., partial, carbonization such that the fibers have a carbon content lying in the range 70% to 90% and ~~present~~ tensile breaking strength not less than 3000 Mpa after carbonization has been completed, without necessarily being put under tension. ~~, and a yarn or tow having a small amount of twist is used to fabricate the preform before subjecting the preform to heat treatment in order to complete the transformation of the discontinuous fibers into carbon fibers.~~ The initial yarn or tow can be subjected to a drawing/cracking operation so as to obtain a yarn or tow formed of discontinuous fibers in which the necessary cohesion is ensured by a small amount of twist, or by sheathing. The yarn or tow having the small amount of twist is used to fabricate the preform before subjecting the preform to heat treatment in order to complete the transformation of the discontinuous fibers into carbon fibers.

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MARKED-UP VERSION OF CLAIM AMENDMENTS

1. (Amended) A method of fabricating [carbon-]fiber preforms, the method being characterized in that:

at least one yarn or tow is used that is formed of continuous fibers derived from carbon precursor fibers that have been subjected to [intermediate] partial carbonization such that the fibers have [a] an intermediate carbon content lying in the range 70% to 90% and [present] tensile breaking strength not less than 3000 MPa after carbonization has been completed[,] without [necessarily being put] putting the fibers under tension;

the yarn or tow is used to fabricate the preform; and

the preform is subjected to heat treatment at least in order to complete the transformation of the fibers into carbon fibers.

2. (Amended) A method according to claim 1, characterized in that at least one yarn or tow is used that is formed of continuous fibers derived from a precursor that has been subjected to [intermediate] partial carbonization under tension.

5. (Amended) A method according to claim 1, characterized in that a plurality of different yarns or tows are used including the at least one yarn or tow [selected from yarns or tows] formed of

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continuous fibers derived from a carbon precursor, and at least one yarn or tow [from yarns or tows] formed of continuous fibers derived from a ceramic precursor.

7. (Amended) A method according to claim 4, characterized in that [a small] an amount of twist is imposed on the or each yarn or tow formed of discontinuous fibers, the ratio between the amount of twist in tr/m and the square root of the weight of the or each yarn or tow formed of discontinuous fibers in metric count (Nm) being in the range 30 to 60.

8. (Amended) A method according to claim [1] 7, characterized in that an amount of twist lying in the range 20 tr/m to 120 tr/m is imposed on the yarn or tow formed of discontinuous fibers.

11. (Amended) A method according to claim 1, characterized in that at least one yarn or tow of not less than [50 K] 50,000 filaments is used.

12. (Amended) A method according to claim 1, characterized in that the fabrication of the preform includes subjecting the at least one yarn or tow to at least one needling step.

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13. (Amended) A method according to claim 1, characterized in that the fabrication of the preform includes subjecting the at least one yarn or tow to at least one step of high speed weaving at not less than 400 strokes/minute.

15. (Amended) A method according to claim 14, characterized in that the heat treatment is [continued] performed at a [higher] temperature not less than 1600°C.

16. (Amended) A method according to claim 2, characterized in that:

at least one yarn or tow is used that is formed of continuous fibers derived from preoxidized polyacrylonitrile that has been subject to carbonization such that the carbon content lies in the range 70% to 80%;

the yarn or tow formed of continuous fibers is subjected to a drawing/cracking operation so as to obtain a yarn or tow formed of discontinuous fibers, and sufficient cohesion is imparted to the yarn or tow formed of discontinuous fibers for it to be suitable for use in fabricating the preform;

characterized in that a small amount of twist is imposed on the or each yarn or tow formed of discontinuous fibers and

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cohesion is imparted to the or each yarn or tow formed of discontinuous fibers by sheathing;

at least one yarn or tow is used that is formed to continuous fibers derived from a carbon precursor selected from [precursors based on] pitch, phenol, cellulose, and preoxidized polyacrylonitrile;

at least one yarn or tow of not less than [50K] 50,000 filaments is used;

the fabrication of the preform includes subjecting the at least one yarn or tow to at least one needling step;

the fabrication of the preform includes subjecting the at least one yarn or tow to at least one step of high speed weaving at not less than 400 strokes/minute;

the heat treatment is performed at a first temperature of not less than 1200°C in order to complete the transformation of the precursor; and

the heat treatment is [continued] performed at a [higher] second temperature not less than 1600°C.

17. (Amended) A method according to claim 2, characterized in that:

at least one yarn or tow is used that is formed of continuous fibers derived from preoxidized polyacrylonitrile

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that has been subjected to carbonization such that the carbon content lies in the range 70% to 80%;

a plurality of different yarns or tows are used <u>including the at least one yarn or tow</u> [selected from yarns or towns] formed of continuous fibers derived from a carbon precursor, and <u>at least one yarn or tow</u> [from yarns or tows] formed of continuous fibers derived from a ceramic precursor;

the or each yarn or tow is subjected to a drawing/cracking operation, the yarns or tows formed of the resulting discontinuous fibers are mixed together, and sufficient cohesion is imparted to the resulting composite yarn or tow for it to be used to fabricate the preform;

characterized in that a small amount of twist is imposed on the or each yarn or tow formed of discontinuous fibers and cohesion is imparted to the or each yarn or tow formed of discontinuous fibers by sheathing;

at least one yarn or tow is used that is formed to continuous fibers derived from a carbon precursor selected from [precursors based on] pitch, phenol, cellulose, and preoxidized polyacrylonitrile;

at least one yarn or tow of not less than [50K] <u>50,000 filaments</u> is used;

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the fabrication of the preform includes subjecting the at least one yarn or tow to at least one needling step;

the fabrication of the preform includes subjecting the at least one yarn or tow to at least one step of high speed weaving at not less than 400 strokes/minute;

the heat treatment is performed at a first temperature of not less than 1200°C in order to complete the transformation of the precursor; and

the heat treatment is [continued] performed at a [higher] second temperature not less than 1600°C.

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